

What is claimed is:

1           1. A method for rejecting a component from a pick/place  
2 head in a component placement machine, the steps comprising:

3           a) providing a component placement machine  
4 comprising a housing adapted for movement along an X and  
5 a Y axis above a printed circuit board and having a frame  
6 rotatably attached thereto, said frame having a plurality  
7 of pick/place heads disposed thereupon;

8           b) providing a vision system comprising a camera  
9 contiguous with said housing;

10          c) picking a component from a supply of components  
11 using at least one of said plurality of pick/place heads;

12          d) capturing an image of said picked component, and  
13 processing said captured image to determine whether said  
14 picked component is placeable or non-placeable;

15          e) providing a reject station contiguous with said  
16 housing and adapted to receive a component; and

17           f) rejecting said picked component into said reject  
18           station when said picked component is determined to be  
19           non-placeable.

1           2. The method for rejecting a component from a  
2           pick/place head in a component placement machine as recited in  
3           claim 1, the steps further comprising:

4           g) placing said picked component onto a printed  
5           circuit board at a predetermined location when said  
6           picked component is determined to be placeable.

1           3. The method for rejecting a component from a  
2           pick/place head in a component placement machine as recited in  
3           claim 1, wherein said rejecting step (f) comprises means for  
4           releasing said picked component from said at least one of a  
5           plurality of pick/place heads such that the said picked  
6           component is deposited into said reject station.

1           4. The method for rejecting a component from a  
2           pick/place head in a component placement machine as recited in  
3           claim 1, wherein said rejecting step (f) is accomplished  
4           substantially completely during at least one of said picking  
5           step (c) and said placing step (g).